# THE VETERINARY RECORD

A Weekly Journal for the Profession.

No. 651. DECEMBER 29, 1900. VOL. XIII.

## THE REMOUNT DEPARTMENT.

Perhaps no department of the Army has so clearly shown its incapacity during the past year's strain as that which collects the horses and distributes them to the troops. To those who knew anything of this department, what has occurred was expected. The handful of permanent officers attached to this branch of the service are numerically unable to do more than buy the 2000 horses required per annum during peace time. When war is not imminent and there are no large peace manœuvres the whole department has less work to do than many large dealers and far less than some managers of companies.

When war breaks out, or even when a big drill is to be held on Salisbury plain, the staff is strengthened from without by the temporary selection of some officers who have time to spare and influence enough to secure appointment. Some have had experience of infantry, some of artillery or transport and a few have knowledge of cavalry. To have ridden to hounds seems to be accepted as proof positive of fitness to buy Army horses. When hard pressed the department will even accept the services of civilians. Early this year a highly placed individual at the War Office instructed a well-known dealer whose usual work is buying and selling 300 guinea hunters to find army horses. He did so, but only by employing other men to act for him. A man may be fit to judge at first-class shows, he may ride to hounds with perfect judgment, he may have commanded a cavalry regiment, and yet be utterly incapable of buying and conditioning horses for the Army.

We know no business which requires more practice and more technical skill than buying horses for a large establishment and getting them fit for work. The Army requires two men to buy each horse—a military amateur to select and a veterinary surgeon to approve. Why two? Why not entrust the whole job to the man who knows? Why not, in short, unite the Veterinary and Remount Departments in one, so that a special training for special work is afforded from the time the officers join the service.

In civil life the large companies keeping thousands of horses used to confine their veterinary surgeons, work to doctoring. Few of them do this now-a-days. They entrust him with buying, feeding, and general management. The result in all cases has been increased efficiency and decreased cost. How long will it be before the War Office comes to take a business view of this question?

## "POLYPUS IN THE LARYNX."

I notice you justly complain of the few practitioners who now record clinical notes. I am sending particulars of a case which occurred some few years ago at Grantham when I was assistant with the late lamented Captain B. H. Russell.

I was called to see a young cart mare. The farmer explained that she had suddenly become a violent "roarer." So long as she was standing or walking no sound was heard, but as soon as she was made to trot she could be heard 100 yards away. This proved true enough. When hustled she made a noise which varied from a hoarse croak to a shrill whistle. I must confess I was puzzled to account for it, and ordered the mare to be sent to the Infirmary the next day for a careful examination to be made.

An exploration of the throat revealed some soft growth in the larynx, but impossible to reach successfully. We decided to operate there and then. The mare was cast and placed under chloroform, then turned on her back, the head being stretched out so as to expose the laryngeal region. The larynx was laid open by a longitudinal section similar to that made when Fleming's operation for roaring was in vogue. This at once disclosed a perfect polypus, about the size of a walnut, which we removed with an ecraseur, afterwards closing the wound with sutures. When the patient came round we placed her in a loose box.

The after treatment consisted merely of soft diet and dressing the wound with carbolised oil. She made a good recovery and went to work again quite sound. I lost sight of her afterwards so cannot say whether, as in the case of nasal polypus in man, any recurrence took place.

I daresay such cases are common enough, but that is the only one I ever saw.

J. F. K.

## PSAMMOMA OF THE BRAIN IN HORSE.

*Subject.* A bay gelding. On the first visit the following symptoms were exhibited. Stood in a loose box forcing his head against the wall, the eye had a fixed glassy appearance, if you attempted to move the horse he would stagger and nearly fall to the ground. Pulse was good, respirations little exaggerated, no perspiration, and temperature 102°. The horse had never been unwell during the time it was in the possession of my client, which was about two years. The only thing he had at times shewn was a very violent temper, that he would bite and kick viciously, and even refuse to do any work, while in

the intervals would be good tempered and work well. From symptoms and previous history I concluded it was a case of stomach staggers. The horse being a very ravenous feeder rather hastened my opinion in that direction, and I accordingly administered a ʒvi. physic ball. On seeing the case on my next visit (same day) the symptoms before enumerated had entirely disappeared and the horse was quietly eating a bran mash as though nothing had been amiss.

Two or three days after the first attack the old symptoms recurred again, but with increased violence. I thought this very strange seeing that the physic had operated on the bowels very freely. I now concluded there must be some brain trouble, pressure from some cause, and accordingly administered bromide of potass. and chloral hydrate. Nothing however would give relief to the distressing and at some times violent symptoms. I then had recourse to bleeding from the jugular vein, which also did not give relief. The horse slowly got worse and eventually got off his legs. Seeing the desperate condition of my patient I advised that the animal be slaughtered, which was readily assented to by the owner. Bleeding was the mode of death.

*Post mortem.* An autopsy revealed the following: Abdominal and thoracic organs healthy, spinal chord appeared normal. The brain was carefully removed and on examinatin. growing from the lateral ventricles two large tumours were discovered, one in each hemisphere. The tumours were somewhat the shape and half the length of a sausage, and on being cut into proved to be of a firm consistence and greasy to the cut of the knife. I sent a few particulars of the case aud the brain to Professor J. M'Fadyean, Royal Veterinary College, London, who thanked me for the specimen, it being, as he said, rather unique, he kindly informed me the growths were psammoma.

*Remarks.* I would infer that these growths were directly the cause of the periodical attacks of viciousness, in fact it was a valued and prized animal, and only fell into my client's hands on account of its temper. Possibly (as a suggestion of mine) growths similar to these, but not nearly so greatly developed, might account for some of our vicious and bad tempered horses.

ALBERT MARSHALL, M.R.C.V.S.

Plymouth.

## THE GENERAL EDUCATION OF THE VETERINARY STUDENT.

The subject is again creating considerable discussion. From a perusal of papers written thereon and speeches delivered, one would imagine that the veterinary profession stood alone in two particulars.

In the first place we are told if a similar matriculation examination to other professions was enforced, intending veterinary students could not be educated up to the required standard without excessive expense. Indeed, according to some observers such a standard of education would neither be necessary nor advantageous as the work and surroundings of country practitioners would not prove congenial to educated minds.

In the next place we are gravely told that a proper standard of general education would so diminish the number of students, *i.e.*, they would fail to pass it—that in a short time there will be a lack of qualified practitioners in the land, and quacks will again commence to hold the field.

To the lay reader these statements must surely be of a puzzling nature. On the one hand he reads of the advancement of veterinary science and the improvement, both socially and from an educational point of view, of the members of the profession. Should he have the good fortune to be present at some of the social functions in connection with the profession, and listen to some of the post-prandial orations, he would hear much with reference to the social equality of veterinary surgeons and medical men.

On the other hand he can draw conclusions from the statements made by authorities that the same amount of general education is not required in the veterinary student as in the medical student; that it is difficult to get students to pass an ordinary matriculation examination, and that if such were enforced a number of deserving men would be prevented from entering the profession.

Is it really a fact that veterinary students are drawn from such a peculiar social position that it is found impossible to educate them so as they shall be able to pass the same matriculation examination as students of medicine? It would be a libel to make such an assertion, and an insult to the students to draw such an inference.

It would be interesting to ascertain the difference between the subjects studied in human and veterinary medicine, as regards the requisite mental capacity, and why a certain standard of general education is found necessary in one profession, while the other is satisfied with an inferior standard. It is high time parents and guardians insist on a proper education for the youths entrusted to their care, and the sooner they commence to understand that a good general education is just as necessary for veterinary as it is for human medicine the better.

Dealing with the second peculiar imagination with reference to the veterinary profession, viz., that a higher standard in the matriculation examination will result in a dearth of qualified men, it is really ludicrous, in face of the frequent complaints of overcrowding, cutting down fees, keen competition, advertising, etc. etc. These are certainly not the symptoms of an under-stocked profession. Week after week we hear complaints about the difficulty of obtaining remunerative practices, and from personal experience we are aware that, so far as this country is concerned, the supply of practitioners exceeds the demand.

It is quite easy to understand that to raise the matriculation to a similar standard as that of medicine, law, the church, dentistry, etc., would mean a loss of students to the teaching schools for a period, but this loss would eventually prove a gain to the profession. No one can assert that the present matriculation examination enforced by the General Medical Council is a severe one, and the mental training required to obtain a pass is absolutely neces-

sary for the study of technical subjects. It would certainly be surprising if in the present day we are to believe that it is too severe for the majority of veterinary students.

No doubt examples of failure to pass this examination could be found among would-be medical students, we think however that in consequence of such failure it is far better for themselves and the profession, that they are debarred from entering until they either study for it again, or take up some other calling which requires less mental effort and capacity.

As regards the social position of the veterinary surgeon, we have on more than one occasion pointed out that this depends altogether on himself. Some men are suited for one class of work, and are perfectly satisfied with surroundings that would be distasteful to others, in fact they would consider that "drawing-room" society is anything but pleasant. A veterinary surgeon can uphold the dignity and houour of his calling without constantly seeking for that "social equality" with his clients, of which we hear so much. If he is properly educated and has sufficient means, the fact of a man being a veterinary surgeon will not debar him from social privileges. Constant grumbling certainly will not attain this end. We must remember also that social status of itself will not earn a living, and the most intimate terms of friendship with a client will not ensure a continuance of his patronage if the practitioner is not satisfactory in his work.

E. Wallis Hoare, F.R.C.V.S., Cork.

## INOCULATION AGAINST RINDERPEST IN INDIA.

From the Report of Dr. Leonard Rogers.

(*Continued from p. 321.*)

### The Serum Simultaneous Method of Turner and Kolle.

The serum simultaneous method of Turner and Kolle, which consists of the injection of an ascertained dose of serum on one side of the animal and of a small dose of rinderpest blood on the other, by which means a mild attack of the disease is said to have been produced in 90 per cent. of the animals, with resulting lengthy immunity, while the other 10 per cent. were immune for several months, has been extensively tested in both plains and hill animals. The remarkable fact has been brought out by these experiments that hill animals require many times as large a dose of serum in proportion to their weight, and even a considerable larger absolute dose than is necessary to protect plains animals by this method.

Further, with a safe dose of the serum it has not been found possible to get a reaction in nearly as many as 90 per cent. of Indian plains animals, but this difficulty has been, to a large extent, got over by re-inoculating such animals as have not had any temperature or symptomatic reaction by the end of one week after the original inoculation with a second dose of blood alone, and in this way it has been found possible to get reactions in practically all susceptible animals.

*Serum Simultaneous Inoculations in Plains Cattle. Summary.*

From an analysis of the 22 cases in which the serum simultaneous method was used in plains cattle, we find that nine of them showed good temperature reactions with slight symptoms, none of the animals being seriously ill, and five of them, which have been tested with injections of from 10 to 200 c.c. of virulent blood at intervals of from 75 to 183 days, all showed full immunity at the end of those periods, which there is no reason to doubt will last for a much longer time, if not for the life of the animals. Further, five more showed temperature reactions without symptoms, and four of these which were injected with 10 c.c. doses of rinderpest blood at intervals of from 73 to 244 days afterwards, all showed immunity at those dates, so that it appears that these slight temperature reactions do produce long and active immunity and are really mild attacks of rinderpest, for it has been found that the blood contains the virus at the time the fever is present and rinderpest lesions are found in the bodies of them if they are looked for. This being the case, it is not necessary to aim at producing as severe an attack of the disease as possible, as was recommended in South Africa, but which would not be suitable to conditions met with in Indian villages, where it would not be understood or approved of, but mild reactions will afford the necessary degree of immunity, although these animals will have to be tested at much longer intervals in order to ascertain how long such reactions will protect them for, although I have little doubt that it will be for some years at least, for some of them have been injected with 100 c.c. doses of virulent blood without showing any signs of rinderpest.

On the other hand, no less than eight of the animals or 35 per cent. showed neither rise of temperature nor symptoms after the serum simultaneous inoculations, although no doubt this is partly due to the large doses of serum used, and that by using smaller doses several more of them would have been got to react, but then some of those which reacted well to the doses used would have had much more severe attacks than they did have, which for the reasons just mentioned it is desirable to avoid. Moreover, even if as large doses as could safely be given without incurring loss had been used, still it is nearly certain that a smaller percentage of them would have reacted than the 90 per cent., which are said by Turner and Kolle to have reacted by this method in South Africa, on account of the greater degree of variation in the susceptibility of Indian cattle. Still, it is very important to get reactions in as large a number as possible, and it has been found that the difficulty can be got over by re-inoculating those animals which have not reacted within a week or ten days of the simultaneous injection with a second dose of from 1 to 10 c.c. of virulent blood alone, the larger dose being safe and therefore preferable as being more likely to procure the required result. Six of the eight animals which failed to react have been treated in this way, with the result that five of them were got to react after the second dose of blood, although in two of them the rise of temperature was very slight, while in another only slight symptoms without fever appeared. These five animals have been tested at intervals of from 73 to 97 days after the original inoculation, and all of them were fully immune, although in one of them a dose of 100 c.c. of virulent blood was used, 10 c.c. being that given in the other four.

This result may be regarded as very favourable, as these animals may confidently be expected to obtain greater degree of immunity of much longer duration than if they had not been got to react by the re-inoculation method, and by its use a perfectly safe dose of serum can be used which will not cause any loss or cause many of the animals to be seriously ill, yet a larger percentage or reactions with resulting lengthy immunity can be obtained than is possible with the unmodified serum simultaneous method in this country.

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*Serum Simultaneous Method in Hill Cattle.*

*Summary.*

These last two cases confirmed the conviction previously arrived at that good results could not be obtained by the unmodified serum simultaneous method in these hill animals, for, once more, while one animal had only a slight temperature reaction without any symptoms, the other, which was inoculated at the same time and with the same doses of blood and serum, died of rinderpest. The whole series of 42 animals showed the same irregular results, while it was also evident that if no reaction was obtained, the resulting immunity did not last for so long as three weeks, while if enough serum was given to be safe for nearly all the animals, then a large majority of them would not react, and would get no immunity of practical value. The serum simultaneous method, then, was not reliable in this particular breed of animal, and it was necessary to try if any modification of it would give better results, as both the ordinary glycerinated and filtered bile methods had also failed with these animals.

On the other hand, in those animals which did get a safe reaction, even when only a rise of temperature for perhaps two or three days occurred, a very satisfactory degree of immunity was obtained, for none of these cases showed any symptoms of rinderpest on being inoculated with from 10 to 100 c.c. of rinderpest blood at periods after the original serum inoculations of from 61 to 165 days, while the discovery of lesions of rinderpest after only a temperature reaction and the production of rinderpest in other cattle by the inoculation of blood from the serum ones, which only showed such a temperature reaction without marked symptoms of the disease, proves that such slight reactions are really mild attacks of rinderpest, and consequeutly may be expected to afford as long immunity as a severe attack of the disease, just as mild attacks of small-pox (and other infectious diseases, which occasionally occur in vaccinated persons, may afford lifelong protection against these diseases.

(*To be continued.*)

## Royal College of Veterinary Surgeons.

A meeting of the Board of Examiners was held in London, on December 13th for the written and on and between the 17th and 19th inclusive for the oral and practical examinations. The following gentleman passed their final examination and were admitted Members of the Royal College of Veterinary Surgeons subject to their complying with the further requirements of the College :—

| | |
|---|---|
| Mr. H. Burrell | Mr. T. Parker |
| E. Child. | R. H. Pinching |
| E. Finucane | W. N. Rowston |
| D. G. W. Galt | H. E. Whitemore * |
| C. G. Hearn | E. A. Wilshan |
| J. W. Flanagan | E. J. Wadley * |
| E. Nicholson | C. W. Wilson * |

The following passed their Third Examination:—

| | |
|---|---|
| Mr. A. A. Donnelly | Mr P. J. H. Kelland |
| A. Edgar | A. C. Lloyd |
| W. G. Flanagan | R. Morford |
| T. Haigh | J. R. Stevenson |
| R. E. Klyne | G. H. Ward |

The following passed their Second Examination :—

| | |
|---|---|
| Mr. T. F. Hancock | Mr. F. D. Neal |
| W. L. Little | A. V. W. Sewell |
| T. Love | A. J. Thompson |
| H. Newton | W. F. Wilson |

The following passed their First Examination ;—

| | |
|---|---|
| Mr. A. C. Anderson | Mr. P. J. Bolton |
| S. G. Balls | W. T. Christie |
| H. C. Dibben | H. K. Roberts |
| T. A. Nicholas * | J. Richardson |
| G. O. Ogden * | H. Sproston |

Marked thus * passed with Second Class Honours.

ARTHUR WM. HILL, *Secretary.*

## VETERINARY SOCIETIES

### ROYAL COUNTIES VETERINARY MEDICAL ASSOCIATION.

### ANTHRAX.

By D. PUGH, F.R.C.V.S., Sevenoaks.

Paper prepared for the meeting in June, 1900.

(*Continued from p. 341*).

SYMPTOMS.

*Cattle.*—In every outbreak with which I have had to deal it has never been my lot to find the first patient alive. When a bullock dies suddenly, and without any apparent cause, a little of the blood from the ear should be examined microscopically before proceeding to open the body. If bacilli anthracis are present the body should be buried intact.

The other animals on the infected place are then examined, and if one is found to be dull (which is usual), or to have a little saliva dribbling from the mouth, and the coat staring, the temperature is immediately taken. This sometimes is not very much disturbed at first, but very soon runs up to an alarming extent, accompanied by severe rigors and spasmodic twitching of the muscles. Feeding and rumination ceases, the secretion of milk greatly diminished and may contain bacilli ; œdematous swellings may be seen in different parts of the body. The animal stands persistently with its back slightly arched, occasionally falling in convulsions, but very soon rising again. Williams says "that the standing position is not long maintained"—this has not been my experience The eyes are prominent, the conjunctiva injected, with rarely capillary rupture, the pulse accelerated and irregular, the heart's action violent, and breathing quickened and accompanied with groans. Abdominal pain is manifested by the animal looking round to its sides and kicking at its abdomen. Tympanitis of the rumen, the fæces and urine frequently retained for some hours during the early stages, then both suddenly expelled ; the former usually, the latter occasionally mixed with blood ; diarrhœa may supervene. In the female, blood is sometimes discharged in large quantities from the vagina. The bacilli are found in abundance in these blood discharges, but I have never been able to find them in the general circulation during life. In one cow that died suddenly I found her tongue very much swollen, of a dark bluish-black colour, and covered with phlyctænæ containing a dark serous fluid which contained bacilli. It is said that the areolar tissue of the back and sides become crepitous to the touch ; I have not witnessed this. In animals

that recover the symptoms are often very intermittent for days, sometimes the animal is better, sometimes worse, until it recovers. Death, when it occurs, is usually very sudden.

*Horse.*—In the horse the symptoms are somewhat similar to those of cattle ; the horse usually appears dull at first, but sometimes is excited and off his feed, colicy pains soon supervene, the animal looks round to its side, paws with its fore-feet, kicks at its abdomen with the hind, and frequently lying down and getting up again. The mucous membranes are very much injected, the pulse frequent, small and irregular, respiration hurried and sometimes accompanied by a roaring noise, patchy sweats bedew the body, rigors and muscular twitchings occur. The temperature rises to 105°, 106°, or 107°, œdematous swellings are sometimes seen in different parts of the body, especially peripharyngeal. A bloody serous discharge from the nose, fæces fluid and mixed with blood ; the animal staggers and runs blindly against any object, falls, and generally very soon succumbs well within the 24 hours, but may be postponed to the 60th.

*Sheep.*—Great nervous excitement is the first symptom observed. As time goes on the sheep will probably be found in some quiet place or ditch, breathing heavily, and not caring to move ; others may appear dull from the first. The sheep, when made to walk, does so in a stiff manner, its head being extended, its back slightly arched, and the legs barely flexed. In all other respects the symptoms closely resemble those seen in cattle.

*Pig.*—Anthrax in the pig is generally the result of eating offal. They became dull and shiver, off their feed, and hide beneath their bedding. The breathing is quick and difficult, frequently accompanied with a loud wheezing, the ears droop, the tail loses its curl, and the temperature runs very high. Melæna is common : an offensive diarrhœa, the fæces being tinged with dark blood. The local manifestations of the disease are most pronounced in the subcutaneous tissues of the throat ; but the skin and its subcutaneous structures in other parts of the body are also frequently affected ; the skin becomes swollen and discoloured and varies from red to black ; ultimately it may slough. The mucous membrane presents patches of a purplish hue. Convulsions and paralysis generally precede death. The mortality is great.

*Dogs*, after eating flesh of animals that have died of anthrax, frequently develop symptoms of the disease. The dog becomes dull, vomits, whines and avoids fluid, fæces covered with mucus and blood. Convulsions are common. The head becomes swollen to such an extent that it presents a most hideous appearance. The eyes are hidden by their œdematous lids, the lips, tongue and gums swollen and of a purplish colour. The swelling often extends to the chest, causing great difficulty in breathing, sometimes ending in suffocation. Post-mortem lesions are similar to those in other animals.

*Ducks* are said to suffer from the disease after taking the blood of animals which have died of anthrax ; although their temperature is 42° C., the temperature at which Pasteur attenuated his cultures. Whether the ducks died from the invasion of the system of the bacilli, or whether they died from the absorption of their excreta (tox-albumins from the blood) I can find no evidence to prove.

*Fowls*, according to Williams, present the following symptoms :—"No appetite, feathers ruffled, walk difficult and staggering, fœtid diarrhœa, great prostration, dragging of the wings, turgescence or blackness of the conjunctivæ, excessive sensibility of the extremities ; the fowls squat and do not look for a perch ; the bill and comb become black tumours ; red spots, which soon become black and gangrenous, form on the palms of the digits, and the animal dies in convulsions. A dozen fowls died in the practice of a neighbouring practitioner after pecking at the flesh of an animal that had died of anthrax.

*Sparrows* are said to be susceptible, although the temperature of these little creatures is 42·5° C.

*Frogs and Fish* can be made susceptible by raising the temperature of the water in which they live.

Algerian sheep, cats, and white rats are not susceptible. In small rodents used for experiments, the period of incubation may be said to vary from 24 hours to 3 or 4 days when inoculation is the method of infection ; the period of visible illness is very short, often only a few minutes.

### Treatment.

Should the outbreak of anthrax occur when the animals are at pasture, they should be immediately taken off the pasture and housed to prevent, if possible, further contamination of the field by their excreta. Those visibly affected should be kept together for treatment, the remainder as far as possible kept together for prophylactic precautions, all their temperatures should be taken as frequently as possible, and the animals watched for about three weeks.

Occasionally a little saliva may be seen running from the corners of the mouth, before any great change takes place in the temperature. My practice has been to drench all the animals (cattle) with a draught containing chloral 1oz and carbolic dr. iij. in two pints of milk (horse would receive same dose, sheep modified, dog try chinosol). When the patient is in great pain, the dose is repeated in an hour and then repeated every three hours, until the temperature is normal. No food is allowed if they are inclined to eat until some hours after the symptoms subside. They will seldom drink anything.

### Precautions against Spread.

The greatest possible care should be taken with excreta ; the floor and passages should be covered with a layer of slaked lime so that the fæces and urine may be thoroughly mixed with it and crude carbolic as soon as it is passed, and then carried away with any soiled material to a place close by where it can all be burnt. There is another advantage in the passage being covered with dry lime ; it prevents any of the contaminated material sticking to the attendant's boots and being carried to other places. All blood stains should be washed off the tail, anus and surrounding parts with a solution of HgCl. 1 in 1,000, as quickly as possible after being soiled, to prevent the bacilli sporulating. Occasionally blood is passed freely from the vagina ; my practice is then to inject it with the same solution.

Reinfection is occasionally seen after the patient has apparently got all right from the first attack. A case occurred in my last outbreak where re-infection took place 16 days after first attack. The attendants should only attend to the affected and those exposed to infection ; their gaiters and boots should be left in the infected place when they have to leave the premises.

Immediately an animal dies of anthrax all the natural apertures of the body should be plugged with tow saturated with crude carbolic, and no cutting allowed. A strong wooden sledge on two runners should be made to convey the carcase to the grave, which would prevent the skin being cut by sharp stones, and allowing extravasation of blood. The burial ground should be a suitable place, removed from any buildings and some distance from any well or river ; so as to prevent any risk of the contamination of the water. The grave should be 9 feet deep, with a layer of lime a foot deep beneath the carcase and the same above.

Should a carcase be found opened, as is sometimes the case in country places, I should advise that it be burnt by the method prescribed by Professor F. Smith in his Veterinary Hygiene, by digging two trenches in the form of a cross, and sloping towards the centre to allow draught, then a few iron bars placed across these open-

ings, and wood over this. The carcase is next placed over this with more wood over it. Fire is placed underneath. All contaminated material should be placed on the fire until everything has been entirely consumed.

The carcase may also be destroyed by chemical means, but I do not consider it either very expeditious or practical.

### Post-Mortem.

Animals having died of anthrax usually present the following appearances—a bloody mucous discharge from nostrils, and occasionally from the mouth, the tongue sometimes swollen, of a dark colour and protruding, the conjunctiva injected and frequently accompanied with capillary hæmorrhage; œdematous swellings are sometimes seen along the body, tarry looking blood expelled per rectum, and if tympanitis is present (which invariably occurs a few hours after death), the anus protrudes and is of a dusky appearance; a little bloody urine may be discharged from the vulva, and on opening the lips ecchymosis is generally present. Having got so far, it is advisable to make a microscopical examination of the blood, which may easily be done by making a small incision of the ear; the bacilli here and in the foot have been shown to live and resist putrefac tive changes longer than those in the body. If putrefactive changes are far advanced another bacillus may be confounded with the bacillus anthracis—the bacillus of malignant œdema.

The absence of bacillus anthracis does not warrent the conclusion that we are not dealing with a case of anthrax; because the anthrax bacillus rapidly degenerates and becomes distorted in putrifying blood.

On laying the skin over the abdomen back, the subcutaneous tissue is seen to be infiltrated with a yellow gelatinous fluid, and here and there marked with capillary hæmorrhages, the abdominal cavity usually contains a large quantity of blood-stained fluid, the surface of the intestines and the peritoneum show patches of ecchymosis (the mucous membrane of the former frequently ploughed up by an acute hæmorrhagic inflammation), and contains a quantity of tarry-looking blood mixed with fluid fæces.

The spleen almost constantly enlarged, and filled with a dark incoagulable blood In one of my cases, the spleen was not enlarged, but there was a gelatinous exudate at its apex. The spleen pulp is so altered that, when the spleen is cut or ruptured by being distended, it flows like a black treacly mass.

Gelatinous and blood extravasations are seen in the structure round, and in the kidney, and the pelvis may contain extravasated blood from the rupture of a glommerulus. The liver is very much enlarged, and contains large quantities of dark blood; all the lymphatic glands are inflamed and show blood extravasations.

The pleural cavity contains a little blood-stained fluid and its surface is marked with ecchymosis; the lungs are engorged with dark blood and in its structure, capillary hæmorrhage is commonly seen The trachea and bronchi contain blood-stained mucus; the bronchial glands are enlarged and contain extravasated blood.

The pericardium contains blood-stained fluid, and both its visceral and parictal layer show small blood-stained patches. In the heart, dark fluid blood is found. The endocardium here and there shows nnder its surface small dark coloured exudations. Capillary hæmorrhages are seen on the surface of the brain and also in the ventricles.

### Disinfection.

The walls and floor of the shed or stable which contained the infected animals should be thoroughly moistened with a 20 per cent. solution of carbolic, in order to keep down any dust which may arise during the brushing and scraping processes. The walls, partitions, mangers, &c., should be thoroughly scraped, and then the singeing machine run carefully over every part; to destroy any germs that may be lurking about. These parts may then be either whitewashed, which should contain 20 per cent. crude carbolic, or painted. The scrapings from the walls, etc., should be burnt with the excreta and soiled bedding. The floor should be well washed and scrubbed with carbolic solution, and then a layer of quick lime put down. The attendants' overalls, gaiters and boots should be destroyed. The utonsils, in fact everything about the infected animals should be subjected to boiling water containing carbolic acid; then run the singeing lamp over them, if they will stand it. The sledge, which I think the best mode of conveying the carcase to a convenient spot for burial, should be burnt on the surface every time it has carried a carcase, after the outbreak has ceased it may be entirely destroyed by fire.

If the animals were at first on pasture, every bit of dung should be collected and burnt, then the pastures covered with slaked lime.

Any branches of trees covering the grass and preventing the sun's rays getting at it should be cut away. No animal should be admitted on the land for at least six weeks; even after this there is a certain amount of risk.

The Veterinary Surgeon's duties in the case of an outbreak of anthrax are briefly stated as follows:—When the outbreak occurs in his practice, he must advise his client to report it to a police constable. The constable then reports it to the Inspector of the Local Authority, who in turn instructs the Veterinary Inspector to examine and report on the suspected outbreak. Should it eventually prove to be anthrax, the Inspector of the Local Authority then reports the outbreak to the Local Authority and the Medical Officer of Health for the district. The Local Authority then put in force the power which they possess to prevent animals being moved on or off the infected premises; also the regulations in regard to slaughter (which is undesirable), disinfection, burial, &c., &c.

The following charts record the temperatures of two outbreaks of anthrax which occurred in my practice.

In the first outbreak the owner possessed four cows and a heifer. They were fed on hay (home-grown), mangolds and oilcake. I was requested to make a post-mortem on a cow that had died suddenly that morning. Being suspicious of anthrax, I examined the blood from the ear and found it teeming with bacilli. I immediately examined the other cows and found them affected and had them treated as already mentioned. I examined the blood of the living animals repeatedly by pricking the skin and placing a little of the blood under the microscope, but could not find a trace of bacilli; although it was an easy matter to find them in the blood discharged with the fæces. These animals recovered and did well.

The second outbreak occurred among a lot of fattening beasts (19 in all). They were fed on hay, cake and roots. The first one affected was a fine roan heifer. She was found in the morning breathing heavily and kicking at her abdomen. The cowman gave her an aperient draught, rnd as she did not appear to improve he sent for me, but on my arrival I found her dead. I examined the blood and found it contained large numbers of bacilli. Nine of the others subsequently suffered, but all made good recoveries.

This outbreak I attributed to hay gathered from a meadow that had been washed by a big stream.

### Discussion.

Prof. M'Fadyean was received with applause on rising to open the discussion. He had, he said, twice read very carefully through Mr. Pugh's paper, and thought

he could on behalf of all present congratulate Mr. Pugh on having produced a paper in which he had very concisely brought together all the principal facts relating to the interesting disease of anthrax. As would presently appear, he did not altogether agree with some of the views Mr. Pugh had put forward; but he did not intend that his remarks on that occasion should simply take the form of criticism of the paper. Incidentally he should indicate what were the points regarding which he was disposed to dissent from the essayist. Fortunately, now, there was no need to say anything with regard to the etiology of anthrax, at least in the narrower meaning of the word, because everybody was now prepared to admit that there was only one cause of anthrax, viz., the entrance into the animal body and tissues of a particular species of organism; in fact Mr. Pugh had so framed his definition of anthrax as to make the discussion of the causation of the disease entirely superfluous. At the same time he would like to take that opportunity to say, with regard to the meaning of the term anthrax, that he was very pleased to observe that within recent years the use of a word which he thought had a pernicious tendency was gradually dropping out of veterinary nomenclature—the use of the term anthracoid, which was misleading, and merely used as a cloak for ignorance. In any discussion of anthrax from the point of view of the veterinary surgeon engaged in practice the point which naturally came first was the question of diagnosis. Mr. Pugh had not omitted to treat of the question of diagnosis in his paper, but he was not quite sure that he had entirely appreciated all the difficulties of diagnosis that were sometimes encountered. The question of diagnosis of anthrax might be said to resolve itself naturally into the diagnosis of anthrax during life and the post-mortem diagnosis of anthrax. As a rule—as Mr. Pugh said—the veterinary surgeon was not called upon to make a diagnosis of the first case during life, but was generally called in in the first instance to see a carcase; but at the same time there were cases in which anthrax could be, with tolerable if not with absolute certainty, diagnosed while the animal was alive. One as a rule had no difficulty in diagnosing anthrax after the second case—that was, taking into consideration the animal's clinical history that it was found in a place in which there had been a recent case of anthrax, and under such circumstances in diagnosing anthrax from a mere rise of temperature experience justified the statement that one was not laying oneself open to grave risk, even if there were no external manifestations. Diagnosis in the case of the pig during life was always easy, because he believed there was only one disease of the pig in which there was pronounced swelling of the throat, and when the veterinary surgeon was called to see a number of pigs in which swelling of the region of the throat was a prominent symptom, and in which he could get a history that the animals had been fed on raw animal flesh, he might with almost absolute certainty pronounce the disease anthrax. In the horse also he thought in the considerable proportion of cases in which the region of the throat had suddenly become the seat of swelling, without any external wound whatever, and accompanied with a rise of temperature and evidence of constitutional depression and hurried respiration, one might with tolerable certainty diagnose anthrax. He was afraid, however, that the general rule was that the first case among horses was not diagnosed, largely because in the horse anthrax was after all such a comparatively rare disease that they did not interpret the appearances so well or so correctly as they would did they meet with it more frequently. Coming next to the question of post-mortem diagnosis the practitioner might base his opinion on the lesions which he could discover by making a complete post-mortem examination; but, as everybody knew, that was a course to be very much deprecated, and at the present time it was fortunately a course forbidden by the law. He thought there would be very little risk of error in the case of the bovine species in basing the diagnosis entirely on the appearance of the spleen; and he believed the veterinary surgeons who did so did not more frequently fall into error than those who essayed to base it on a microscopic search of the blood for the anthrax bacillus. With exceedingly rare exceptions the spleen of the ox in anthrax was very much enlarged, and softened very much, that condition of course giving rise to the term splenic apoplexy. A similar state of spleen was very rarely met with in any other disease than anthrax. He had, however, himself seen the spleen of an ox that was normal in size, but which certainly came from an animal that died from anthrax, the spleen pulp containing the bacilli in great numbers. He had also had submitted to him spleens he would have diagnosed as anthrax spleens had he not resorted to microscopical examination; but these cases were very rare. Those remarks applied only to the ox. His experience, more particularly during the last ten years, had satisfied him that in some other domestic animals one could not rely on the condition of the spleen as a guide to diagnosis. In the sheep, for example, the spleen was often not appreciably enlarged or notably softened. In short, the only domesticated animal in which the spleen would be in every case described as apoplectic was the ox, though sometimes there was considerable swelling in the case of the horse. No doubt in the hands of a competent microscopist a microscopical examination of the fresh blood was the best and safest method of diagnosis. Anyone who had convinced himself by experience that he was able to distinguish the anthrax bacillus from other bacteria might in almost all circumstances rely on microscopic examination of the blood. But a point to which he thought Mr. Pugh had not attached quite sufficient importance was that to the man of comparatively slight experience, and to the man who was not armed with a microscope capable of magnifying at least 800 times, who based a diagnosis on what he saw or thought he saw in the blood, pursued a method that exposed him to very considerable risk of error. All modern students, at the London Veterinary College at any rate, had a fairly full course of bacteriology, and were all made as familiar with the appearance of the anthrax bacillus as one could make them in the time; but what they found was that it did not give them an absolute confidence in their own ability to recognise the thing in practice. Many of them preferred to simply cut off an ear and send it to somebody who had had more experience; and he certainly thought that the wisest plan. There was, however, one condition in which the microscopic examination of the blood might be relied upon even by the tyro without much risk of error, and that was when the blood was examined immediately after death, especially if taken from one of the peripheral vessels, because in such circumstances, if the preparatien showed large numbers of bacilli, it was absolutely unnecessary to begin to reflect on the special characteristics of anthrax bacilli, because within an hour after death one never found putrefactive bacilli in those vessels, and there was no other known form found in swarms in blood taken from the extremities. But there were possibilities of error, in two directions, even when the blood was quite fresh. Even in the case of one who had used the microscope to some extent he might be deceived and think he saw the anthrax bacilli. Also he believed there were rare instances in one of the domestic animals in which the most expert bacteriologist alive would commit errors if he based his diagnosis on the search even of fresh blood, and diagnosed "not anthrax," whenever he did not find the anthrax bacillus. He believed, that was, there were fatal cases of anthrax in which the anthrax bacillus was not found throughout the whole of the blood stream, or only in such small numbers that they would not be found in an ordinary preparation.

That was not so in the case of the ox, sheep, or horse; but experience of the last few years had satisfied him that pigs might die of anthrax and yet the fresh blood of the ear and foot might appear free from the bacilli. One could quite understand that the local lesion in the throat might lead to the suffocation of a pig before the general invasion of the blood stream had been brought about, or that the animal might be poisoned by absorbing the toxic substances from the local lesion before such general invasion took place. Lastly, there was a possibility of error owing to the fact that anthrax bacilli totally disappeared when the blood became invaded by putrefactive bacteria, as was proved by experiments which he had published. Not only could they not find anthrax bacilli in a spleen removed 18 or 24 hours after death from a sheep that died from anthrax, but one positively could not infect an animal experimentally with that spleen pulp, so that it was not merely the apparent disappearance of the bacilli but the actual destruction of them. Coming next to the question of treatment, that fell naturally into the measures that were appropriate for animals already diseased, and what would be described as prophylactic measures. As a rule the veterinary surgeon's aid was not sought for the treatment of the first case ; but it certainly was the usual experience, in herds of any considerable size, that thermometric observation on the surviving animals would bring to light the fact that there were animals affected with anthrax although not showing any urgent symptoms. That had been Mr. Pugh's own experience, and he thought it was the general one. Although Mr. Pugh did not say so in so many words, he thought he probably intended them to believe that he knew a method of medicinal treatment which was of value in anthrax, for he told them his habit was "to drench all the animals (cattle) with a draught containing one ounce of chloral and three drams of carbolic in two pints of milk (horse would receive same dose, sheep modified, dog try chinosol). He thought Mr. Pugh must be under the impression that those agents were of some therapeutic value. From that he entirely dissented. He did not believe Mr. Pugh had made any discovery with regard to the proposed beneficial effects of carbolic acid in anthrax. Even if it were established that carbolic acid in those quantities had a beneficial influence, he could assure Mr. Pugh he was very far from being the first or the second who had employed such an agent. [Mr. Pugh : I do not claim it.] There was absolutely no evidence of the therapeutic value of that or any other agent. All the results in Mr. Pugh's cases were just the average results—that was to say, he lost one animal in each outbreak, which was as near as possible the average loss in all the outbreaks reported to the Board of Agriculture, and he had reason to think that the great majority of veterinary surgeons in this country abstained from pouring anything down the throats of animals with the object either of curing or of preventing anthrax. If that was not enough to satisfy Mr. Pugh that at least he had not led sufficient evidence to warrant the conclusion he seemed disposed to draw, he would call his attention to the fact that he was administering carbolic acid in such a strength as would probably lead to its meeting the anthrax bacillus in a strength of 1 in 35,000. As to the disposal of the dead and the disinfection of the surroundings, he had not left himself time to deal as fully as he would have liked with the question of burning *versus* burial ; but he would briefly say he was quite satisfied that in most cases the safest and best method of disposing of anthrax carcases was not to attempt to burn them, but—if there was a sufficient depth of soil—to dig a grave exactly alongside them and throw them in, together with any portions of surface earth that might reasonably be suspected to have been contaminated. All the talk about the spores of anthrax being brought to the surface was altogether out of place in this country throughout the greater part of the year, because it was impossible any anthrax spores could be formed. They were never formed in the interior of an intact carcase, and if between now and June next they were to slash a carcase and expose it to the air there would be no spore formation, for they were never found at a temperature below 60dgs. He knew the directions of the Board of Agriculture advised that quicklime should be added to the carcase. Like many other things that were medically recommended, that had this to be said for it, that if it did no good it did no harm, but he did not think for a moment that it did any particular good. With regard to disinfectants, there were two principal points on which he could not agree with Mr. Pugh. He advised a 20 per cent. solution of carbolic, but he did not think they could get a stronger aqueous solution than 5 per cent., and he did not think they could dissolve 5 per cent. of crude carbolic acid in water. Then with regard to the disinfection of premises and pastures. Mr. Pugh advised that the whole of the pastures should be covered with slack lime. He thought that was in most outbreaks an impracticable proposal. It was a very serious course to recommend a farmer to cover the whole of a field or fields in which cases of anthrax had occurred with slacked lime, and he objected to it also as being, in all probability, an absolute waste of money and labour, because there was not a fragment of evidence to justify the belief that anthrax spores would be destroyed in slaked lime. When in hot weather the bacilli had resolved themselves into spores on the pasture they did not at all know where they were, and the application of any agent of such a strength as would destroy the spores was not practicable—first on account of its cost and secondly because it would almost certainly be absolutely destructive to the herbage. He agreed, however, with the wisdom generally of the recommendations which Mr. Pugh made. He did not know that he had quite emphasised the advisability of in every case, no matter what the circumstances were or the history might appear to indicate, of absolutely changing every article of diet. That was to say, if the disease broke out on pasture, the animals ought to have a new field if they could not be housed, and if they were indoors all the articles of food ought to be temporarily changed. Lastly, Mr. Pugh did not say much about vaccination as a protective. He thought it a point of the greatest practical importance to discuss whether, in cases of anthrax, they should recommend the owner to have his cattle vaccinated. He found that almost the most important question to be answered, at any rate when he was consulted, because it was a matter of common knowledge that the late M. Pasteur did introduce a method of vaccinating animals against anthrax, and a matter of general knowledge in the agricultural world that that system of vaccination had been employed on a colossal scale in France and some other countries ; and, naturally, stock owners were apt to say, What about vaccination ? It was really a very difficult question to answer. There could be no doubt whatever that it was possible to prepare a vaccine that would leave the animals with a reasonable and valuable measure of protection; but the practical question was—was the vaccine which one could purchase from the company that now had the monopoly of manufacturing it in Paris useful, and was it safe ? He had himself had probably more experience of the use of the Pasteurian vaccine than anybody in this country, and the whole of his experience had not been pleasing. In the first case in which he recommended it on a large scale—after having, fortunately, put the risks before the owner—it was on sheep, and the result was that near a score of sheep were absolutely, without any doubt, killed by the vaccine. But as to its being of value, in that particular case he asked the owner to allow him to leave a few animals, taken at random, unvaccinated, with the object of some months afterwards purchasing those sheep and an equal number of vacci-

nated ones. He did so, and had them brought to the College, and inoculated them all with a virulent inoculation in order to test the protective effect of the vaccination. As a fact the vaccinated ones died an hour or two earlier than the unvaccinated, showing that the former at any rate had not received sufficient protection to enable them to withstand virulent inoculation three or four months afterwards. He had since then in a good many cases recommended the Pasteurian vaccination on farms where the outbreak was serious and the owner was prepared to take some amount of risk, but he had never since recommended the vaccination of sheep. He thought the wise plan would be, when a veterinary surgeon was asked his opinion as to the advisability of vaccination, to put the risks, perhaps even a little exaggerated, before the owner of the animals, and express his readiness to perform the operation if he would then give his consent. M. Pasteur's method was based on observation of the fact that when an animal recovered from a natural attack of anthrax it could not be re-infected; and that led him to very much doubt the accuracy of the observations recorded in Mr. Pugh's paper, when he spoke about re-infection. There obviously was room for error, because he did not appear to have diagnosed the case of anthrax from the discovery of the bacillus in the blood, but only supposed it was a case because the animal was ill and had a high temperature shortly after an animal of the same stock had succumbed to anthrax. (App.)

Mr. SINGLETON, following, observed that although the official returns in this country of animals who died from the disease did not equal in numbers those in other countries, yet anthrax was of great importance to all interested in cattle. Dr. Sidney Martin, in the course of his experiments on anthrax and diphtheria some two years ago discovered that the anthrax bacillus formed two substances which produced very different results in the animal. Another discovery of some importance was made a few years ago by a foreigner who inoculated a plant of the agapanthus tribe, in which he found the anthrax bacillus thrive rapidly and form spores, and that after remaining in the plant 42 days it had lost none of its virulence. He thought that experimenting on plants offered a very interesting field for research, inasmuch as it could be carried on to their very hearts' content without their running any risk of incurring the wrath of the anti-vivisectionists. (Laughter and hear.)

Mr. COPE, who continued the discussion, was applauded on rising, said with regard to protective vaccination it might be interesting if he gave them some facts as to the results which appeared to have been obtained in France. When M. Pasteur in 1881 attended the Medical Congress in London, he made the astonishing statement, as Professor M'Fadyean had reminded them, that of 25 out of 50 sheep which had been treated by his preventive method remained alive after being inoculated with the virulent material, while the other 25 which had not been subjected to the preventive inoculation out of the 50 died. That statement had naturally a very great effect on the minds of all scientific men, and especially in Germany, where anthrax was and is still very prevalent. That preventive material was now sold by a company in Paris; and to give them some idea of the extent to which it had been sold and used by veterinary surgeons in France he might tell them that a report issued by M. Chamberland, of the Pasteur Institute, that between 1882 and 1893—twelve years—no less than 3,296,000 animals, *i.e.*, cattle, sheep, and swine were vaccinated, and that vaccination was carried on up to the present day. But when he referred to the return issued by the Government Department of the number of outbreaks then and now he found they were almost practically the same. In 1890, there were 536 outbreaks of anthrax in France, in 1891 570, in 1892 607, in 1898 480, and in 1899 422, so that the protective form of treatment did not appear very encouraging. The Emperor of Germany was so much impressed by M. Pasteur's speech in 1881 that, after consulting high German authorities, he very generously invited the Pasteur Institution to send one of their experts to carry out the protective test in Germany, and M. Thuillier, an assistant of M. Pasteur was sent. In his first experiment he killed several of his sheep after introducing the second vaccine which was, of course, regarded as very unsatisfactory. He continued the experiments, but with a very limited amount of success; and at the present moment the Germans themselves, after a very extensive experience, have little or no faith in it and practically had given up the preventive treatment. It was very remarkable, in connection with this disease, that although we know more about its life history in the laboratory than of any other, we make no progress with regard to its prevention. Last year, when he was travelling in Russia, he visited several of the veterinary colleges and institutions of that country and enquired into the work being done there, and he was bound to say they appeared to be extremely advanced, having in all the cities where they had veterinary schools they had attached to them very large laboratories from which they issued vaccine, etc. In Russia they seemed to have a great belief in anthrax protective vaccination, and they said that the results were exceedingly satisfactory. But Russia was a very vast country. What their position was prior to the use of that preventive treatment he was not in a position to say, but he could tell them from returns he had lately received from Russia it was stated that in August last they had 7,262 animals attacked, 6,608 of which had died, and as evidence of the wide distribution of the disease it was reported to exist as far north as Finland and as far south as the Crimea. In reference to the fatality of the disease, he believed it is not by any means so great as is generally thought. Mr. Pugh gave in his paper instances in which animals, doubtless affected by anthrax, had recovered. He had met with precisely similar results, but all the animals that recovered did so without any treatment whatever. It was most uncertain as to what amount of deaths might follow even on a serious outbreak. As Prof. M'Fadyean had pointed out, it was very remarkable that the deaths in this country were so small. We had only 534 outbreaks in 1899, the animals attacked being only 977, viz., cattle 634, sheep 60, swine 253, and horses 30. Of course they at the Board of Agriculture would be delighted to hear any suggestions to improve their methods of disinfection, isolation, or in any other form. With regard to burying the animals in lime, his conviction was that a carcase covered in lime would remain intact much longer than one merely put into the ground, as lime prevented putrefactive germs getting near the carcase. The main reason for requiring the burial of all carcases in lime was to so injure them that they could not be utilised for general trade purposes if dug up.

Mr. PUGH, in reply, assured Professor M'Fadyean that he did not claim any originality in the use of carbolic acid in anthrax. Bouley, many years ago, injected some bullocks with some fluid from a malignant pustule with the result that all died. Subsequently he gave half-a-dozen fresh animals ℥ii of carbolic acid each for some days, and then injected them with some virulent matter, with the result this time of only one death. Professor M'Fadyean directed his attention chiefly, when criticizing adversely the therapeutical treatment of anthrax, against the amount of carbolic acid used, and disregarded altogether the chloral hydrate, which he (Mr. Pugh) considered most important. He said, in view of repeated doses, it would only, put at its highest, make a solution of 1 in 10,000, although one animal got ℥xv of chloral and ℥xxx of carbolic acid. He would like to ask Professor M'Fadyean what amount of fluid he considered there was in an animal's body? (Prof. M'Fadyean: The onus

of proof lies with the essayist.) Chloral was a very powerful antiseptic, and that with the carbolic, would make a solution which would render the host very unfavourable to the bacilli. By making their surroundings unfavourable it gave the phagocytes an easier chance to deal with them. The heifer that was re-infected 16 days after the first attack he was sure had anthrax on both occasions. The first time the bacilli were found in the blood discharged per vaginam; and as to the second, reference to the chart alone would suffice them. He could again assure Professor McFadyean that he did not mind his criticisms in the least—in fact he was exceedingly obliged to him for having come there to open the discussion. Even if if he had "sat on" him he should have been pleased, because then he would have learned something new. The only place he should object to being "sat on" would be in public. He should not recommend vaccination to his clients, because, to use M. Pasteur's own words, "the immunity lasts only for one year," and again, he was perfectly satisfied with his treatment, and until he was shown practically that he was wrong he should still stick to his methods of dealing with it. He was very much obliged to those present for the fair way in which they had received and criticised his paper. (Applause.)

Mr. BUTTERS said he rose with feelings of very greatest pleasure to propose a vote of thanks to Mr. Pugh for his very excellent paper. (Applause.) They would all go away with an increased knowledge of the disease treated of, Mr Pugh's paper having led to a most interesting and valuable discussion.

Prof. M'FADYEAN, although not a member of the Association, asked leave to second the motion. He was afraid he might have criticised some parts of Mr. Pugh's paper with more freedom than he was really entitled to; but he was quite sure Mr. Pugh expected everybody would have his say openly. He candidly admitted his view of the question might be the right one, but the object of meetings of that sort was to elicit evidence on the one side and the other, and then they went home to think about it. He had himself derived benefit from the paper and the discussion. (Hear, hear.)

The vote was passed by acclamation.

Mr. COPE moved, and Mr. SIMPSON seconded, thanks to the President and to the officers of the Association who had given their services during the past year; and this was also carried by acclaim.

The PRESIDENT, in returning thanks, said that during the year he had had the honour of occupying the chair he had been very greatly assisted by the officers of the Society, so that his term of office had been a very easy one. He would specially like to mention Mr. Flanagan, of Reading, who had been a good worker on behalf of the Association, and whom many of them looked on as the backbone of the Society. (App.)

Those present were then entertained to tea by Mr. Alex Cope, and an important gathering ended.

## Personal.

*The Devon and Exeter Gazette* of Monday says:—"A young Exonian, whose communications concerning events in Natal during the early part of the year were of interest to our readers, was a night or two since the recipient of congratulations and expressions of goodwill by friends of his family who were invited to meet him. I refer to Mr. Bert Collings, son of Mr. J. A. Collings, veterinary surgeon, Exeter. Mr. Bert Collings was a mining engineer. When it was quite clear that we were in for a fight he went to Pietermaritzburg, joined Strathcona's Horse, was through the operations in Natal and at the relief of Ladysmith. After that he and his brother troopers embarked at Durban, were taken to the Cape, went up through Cape Colony, and Mr. Collings was at the relief of Mafeking. He was, therefore, in engagements on both sides. He was fortunate enough to have escaped the bullets of the Boers and, being acclimatised, did not get bowled over by sickness. He had one rather noteworthy experience. The charger assigned to him was a Colonial-bred mare, and she stood no less than eleven months' hard riding before she became unfit for service.

When Mr. Collings's health was drunk he, in reply, expressed himself glad at having an opportunity of doing his best in the service of his country, and remarked that the past twelve months would, of course, always be memorable in his life. He and his comrades had some hard times, they also had some good times, and he enjoyed the service very much indeed. Mr. Collings by-and-bye returns to South Africa to resume his duties as an engineer. Another brother is now at the Cape as a veterinary officer in the Remount Department.

LLOYD.—On the 15th December, at Avon Cottage, Hartley Wintney, Hants, the wife of Thomas M. Lloyd, M.R.C.V.S., of a son.

## ARMY VETERINARY DEPARTMENT.

C.V.S. J. M. Magill was discharged from hospital to duty week ended Dec. 2.

C.V.S. F. C. Fountain left Cape Town for England on Dec. 20, in the "Wakool" invalided home.

## Remounts for South Africa.

KANSAS CITY, Dec. 24.

Captain Heygate, of the British Army Remount Establishment, has purchased 50,000 horses and mules for South Africa.—*The Times.*

## OBITUARY.

WILLIAM DIXON CONNOCHIE, M.R.C.V.S., Selkirk.
1858: Jan. 1880, Edin.

Mr. W. D. CONNOCHIE died at his residence after a lingering illness, on the evening of Christmas day. Deceased, who was in his sixty-seventh year, was a native of Westruther. He had been in practice in Selkirk for over forty years, and was well known throughout the Border district. He was at one time one of the examiners in the New Veterinary College, Edinburgh. He was also inspector for Selkirk County Council. Mr. Connochie is survived by five sons, his wife having predeceased him over three years ago.—*N.B.A.*

## CORRESPONDENCE.

### UNQUALIFIED PRACTITIONERS—A REAL GRIEVANCE.

Sir,

I think it a little unfair that you should have twice added a foot note to my letters in your paper; without offence let me say that I did not understand it was within the province of an editor to endeavour to prejudice his readers as to the subject under discussion until both sides had been heard out.

I perfectly well understand what is meant by the recognition of a qualification of one examining body by another, and you have no right whatever to say that no Colonial veterinary school approaches the "standard of excellence" of the R.C.V.S. As far as I have been able to judge the veterinary surgeons of America, Canada and Australia are equal and in many cases superior to those of the British Islands, and you make a great mistake in your insinuation that they are men of "inferior calibre."

Further, in your foot note to my letter of the 15th inst. you end with a threat that "we" shall prosecute any person calling himself a "veterinary surgeon" who is not registered. I am glad to know this as I don't understand that this has ever been done as yet—and I don't understand whether by "we" you mean the proprietors of *The Veterinary Record* or the R.C.V.S.

Lastly you speak of "illegal pretenders." Who are they? Do you intend by the remark to cast a slur upon our Colonial brethren, who possess Colonial diplomas and are not registered in England because the R.C.V.S. Council does not choose to recognise them?

I trust, Mr. Editor, I have not gone beyond the bounds of fair newspaper criticism, and that you will be good enough to insert this letter, for I have a most sincere and hearty desire to see the veterinary profession—before which lies a splendid field for research and good work—a tip top one, with the obliteration from its ranks of all blacksmiths, shoeing smiths, sellers of patent or quack medicines and unqualified assistants, and those who offend the dignity of the profession by inaccuracy in their statements in the law and police courts.—Yours etc.

GEO. K. POOLE, M.D., Surgeon Major.

[When a member of one profession intrudes upon another with opinions or advice of a distinctly unpleasant nature he should be very sure of his position. We repeat that no Colonial Veterinary School possesses the standard of education required by the R.C.V.S., and until they do it is unfair to ask us to recognise them.—ED.]

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## THE EDITOR'S APPEAL.

Sir,

In answer to your query as to the reason that so little interest is taken in reporting clinical cases, I am sending you an interesting case and what is, I think, an answer to your question. Although many of the old practitioners—and I am sorry to say many of the present ones—had flaming account forms and memoranda papers with horses adorned with flowing tails and with the information that "firing neatly done, and all medicines supplied." I say although this was the class of man, yet he was generally making a fair living, and consequently took an interest in his work and had great faith in his purifying balls and specific mixtures generally. Now-a-days the men who have taken his place look upon the income that he used to make as inadequate to his wants, for this and other reasons *loses that interest in the game that is so essential*. My assistant is looking over my shoulder and as he reads says "Solomon, oh Solomon!" *This is not my name.*

Now for my clinical notes:—I was sent for to attend some bullocks. Some of your correspondents lay much stress upon the fact that they drove over or rode over, I certainly did not roll over, and I did not "bike it," I got there at any rate. There were about 25 oxen in a field, several had died, three or four looked like following their bad example. The question was why were these animals dying so mysteriously. In my anxiety I consulted an older and more experienced V.S. It is years and years ago since all this happened and perhaps he has gone to the "Unknown," and I am many miles away from the scene depicted, so in passing probably I may be allowed to say that he treated me in a very unprofessional manner, and although he did not deserve it took upon himself all the glory and left me high and dry, but wiser than formerly and more cautious.

In our search for the cause we walked all over and around the field looking for some poisonous vegetable or mineral. I was the first to hear from one of the men about some "fly poison," he merely making what he thought was a remark of no consequence. We went to a certain spot where a packet of somebody's sheep wash powder had been carelessly and thoughtlessly put into a corner of the field. There we noticed that this had been recently pulled over the grass, and evidently these said bullocks had eaten it. Mystery solved. Two lessons learned. Enough, this is Christmas Day.—Yours faithfully,

ARSENIC.

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Sir,

Your editorial, *re* "Reports on Cases," in the last issue of *The Veterinary Record* admits your failure to explain the dearth of clinical records or to offer a means whereby they might be augmented. That the average practitioner comes in contact almost daily with something clinically fresh and therefore interesting no one will deny, that he has the ability to write a clinical record all will admit. Then why doesn't he? The majority of practitioners after their day's routine is finished has to attend upon the calls of his family circle and if he remains in his study writing up an old case while he ought to be "doing a social function" a "divided house" may be the issue. It is therefore left to the batchelor members, junior graduates, and enthusiasts generally to fill up the vacant pages of *The Record* with clinicals.

If such is the case it must follow the most experienced brains are sowing their observations upon barren stones from which no good can follow, save to themselves—a selfish attitude. To obviate this, might I suggest what may be a probable remedy. Enclose once a month a leaflet in *The Veterinary Record* ruled and margined. In the margin place in italics the words at intervals—

I. Subject.
II. Previous History.
III. Clinical History.
IV. Symptoms.
V. Diagnosis.
VI. Treatment.
VII. Autopsy (if any).
VIII. Remarks.

with a foot note from yourself, "Kindly send us a clinical case."—I am Yours truly,

W. M. SCOTT, F.R.C.V.S.

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## FOREIGN VOTING PAPERS.

Sir,

Through the medium of your paper may I appeal to some Member of Council to bring forward a motion, if in order, at an early opportunity?

It is to the following effect: "That nominations for the Council be made in time to enable lists of candidates to be sent to members of the profession residing abroad."

Regularly every year the farce of sending voting papers to us is perpetrated; yet, until it is too late, we are unable to find out the names of the candidates and so cannot vote.—Yours faithfully,

G. K. WALKER.

India.

## OPERATING STOCKS.

Sir,

In reply to the enquiry of your correspondent S.D.V. in *The Veterinary Record* of December 22, he will find a drawing of the stocks used in France in *Précis de Chirurgie Vétérinaire*, by MM. Peuch and Toussaint, vol. 1, page 20.—Yours trnly,

JOSHUA A. NUNN, Vet.-Lieut.-Col.

COMMUNICATIONS, BOOKS, AND PAPERS RECEIVED:—Lt.-Col. Nunn, Surg.-Maj. G. K. Poole, Messrs. O. T. Williams, A. W. Hill, G. K. Walker, E. R. Harding, A. H. Santy, W. Pauer, W. F. Smith, C. H. Golledge, R. M. Malloch, A. Macfarlane, R. Barron, R. J. Dawson.

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